

# 2.5 x 2.0 x 0.95 mm 32.768kHz CERAMIC SURFACE MOUNT CRYSTAL OSCILLATOR



2.5 x 2.0 x 0.95 mm

ASDK Series



## FEATURES:

- 32.768kHz in 2.5 x 2.0 x 0.95mm package
- Seam sealed assure high reliability performance
- Low current consumption 1.0mA (Vdd=1.8V)
- Suitable for RoHS compliant reflow
- Extend temperature range available

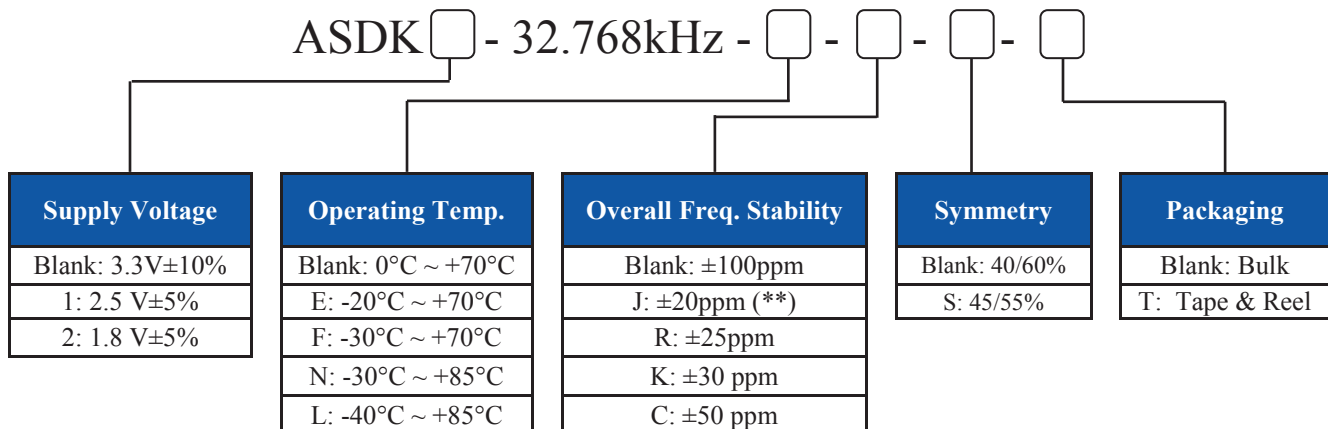
## APPLICATIONS:

- Laptop
- Digital camera
- Wireless LAN
- Bluetooth and mobile communication
- LCD
- PDA and MP3 player
- Electricity, gas and water metering

## STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		-----	32.768	-----	kHz	
Operating Temperature		0	-----	+70	°C	See options
Storage Temperature		-55	-----	+125	°C	
Overall Frequency Stability		-100	-----	+100	ppm	See options
Supply Voltage (Vdd)		2.97	3.3	3.66	V	Standard
		2.375	2.5	2.625		Option 1
		1.71	1.8	1.89		Option 2
Supply Current (I <sub>dd</sub> )		-----	1.0	1.5	mA	Vdd=1.8V
			1.2	2.5		Vdd=2.5V
			2.2	3.5		Vdd=3.3V
Output Load		-----	-----	15	pF	CMOS
Output Voltage	V <sub>OH</sub>	0.9*Vdd	-----	-----	V	
	V <sub>OL</sub>	-----	-----	0.1*Vdd		
Tri-state function		"1" (V <sub>IH</sub> ≥ 0.7*Vdd) Open: Oscillation "0" (V <sub>IL</sub> < 0.3*Vdd) : Hi Z				
Aging		-3.0	-----	+3.0	ppm	@+25°C First year
Symmetry @1/2Vdd		40	50	60	%	Standard
		45	50	55		Option S
Start-up Time		-----	≤ 2	5	ms	
Rise/Fall Time (Tr/Tf)		-----	43	50	ns	
Disable Current				10	μA	

## OPTIONS AND PART IDENTIFICATION (Left blank if standard)



\*Contact ABRACON for extended temperature range

\*\* For Temp option E, F, N and 0° C to + 70° C only

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## OUTLINE DRAWING:

**METAL CAP**  
**CERAMIC BASE**

0.079±0.004 (2.00±0.1)  
0.098±0.004 (2.50±0.1)  
0.037 max (0.95 max)  
0.016 (0.4)  
0.031 (0.775)  
0.027 (0.675)  
0.026±0.004 (0.65±0.1)  
0.064±0.004 (1.625±0.1)

### Recommended Land Pattern

0.035 (0.9)  
0.039 (1.0)  
0.048 (1.225)  
0.064 (1.625)

PIN	FUNCTION
1	Tri-state
2	GND
3	Output
4	Vdd

Note: Recommend using an approximately 0.01uF bypass capacitor between PIN 2 and 4.

Dimensions: inches (mm)

## TAPE & REEL:(1,000pcs/reel)

## REFLOW PROFILE

FEEDING (PULL) DIRECTION →

0.25±0.05, 1.75±0.1, ø1.55±0.05, 4.0±0.1, 3.5±0.05, 8.0±0.2, 0.8±0.05, ø1.10±0.1, 4.0±0.1, 2.25±0.05, ø13.0±0.5, 2.5±0.5/-0, 11±0.5, 120°, 8+1/-0, 11.5±0.2, ø60.2±0.5, ø178±1

Dimensions: mm

Temperature vs Time graph showing Preheat, Ramp Up, Peak Heat, Ramp Down, and Critical Zone. Key temperatures include T<sub>SMIN</sub>, T<sub>SMAX</sub>, T<sub>L</sub>, and T<sub>P</sub>.

Zone	Description	Temperature	Time
1	Preheat	T <sub>SMIN</sub> ~ T <sub>SMAX</sub> 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	T <sub>L</sub> 230°C	30 ~ 40 sec.
3	Peak Heat	T <sub>P</sub> 260°C	10 sec. MAX



Need a test socket for the ASDK Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, [click here](#). **AXS-2520-04-07**

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